



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,788	05/11/2001	Thomas Baumann	033275-214	5192
21839	7590	04/18/2005	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			ROSSI, JESSICA	
POST OFFICE BOX 1404			ART UNIT	
ALEXANDRIA, VA 22313-1404			PAPER NUMBER	

1733

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,788

Applicant(s)

BAUMANN ET AL.

Examiner

Jessica L. Rossi

Art Unit

1733

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, 1/6/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 18-24, 26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 18-24, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/6/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Response to Amendment***

1. This action is in response to the amendment dated 1/6/05. Claim 25 was cancelled and claim 27 was added. Claims 1-15, 18-24 and 26-27 are pending. Support for claim 27 can be found in sections [0023] and [0041].
2. The rejection of claims 1, 5, 13-14, 18, 21 and 23 under 35 U.S.C. 103(a) as being unpatentable over Philofsky in view of the collective teachings of Hennessey, Faust and Watine, and also in view of Anderson, as set forth in paragraph 7 of the previous office action, has been withdrawn in light of the discovery of better prior art upon further searching.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 5, 9, 12-13, 21 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Virsbreg (US 3702499).

With respect to claim 1, Virsbreg is directed to a method for making an insulated stator winding for a rotating electrical machine (column 4, lines 34-38). The reference teaches applying at least one electrically insulating (abstract; column 1, lines 9-11) shrink-on sleeve 5a with a rectangular cross-section (column 3, lines 7-9 state that Figures 1a and 1b are alternative cross-sections and therefore skilled artisan would have readily appreciated that shrink-on sleeve 5a with rectangular cross-section is alternative

Art Unit: 1733

to shrink-on sleeve 5 with circular cross-section) to a periphery of at least one electrically conductive bar with a rectangular cross-section (Figure 4; column 3, lines 18-28) and shrinking the shrink-on sleeve onto the conductor bar (column 4, lines 27-33 and 39-51).

Regarding claim 5, the reference teaches such (column 4, lines 39-41).

Regarding claim 9, the reference teaches applying a plurality of shrink-on sleeves (column 2, lines 12-14 and 24-28).

Regarding claim 12, the reference teaches such (Figure 1; column 1, lines 65-67; column 3, lines 17-30; note winding machine is circular and therefore winding of the conductors results in bending of the same to produce the coil).

Regarding claim 13, the reference teaches such (Figure 4).

Regarding claim 21, the reference teaches such (Figure 4; column 3, lines 18-19).

Regarding claim 23, the reference teaches such (Figure 1b; column 3, lines 7-9).

Regarding claim 24, the reference teaches such (column 4, lines 41-51).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 5, 9, 12-14, 18, 21, 23-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virsbreg in view of the collective teachings of Hennessey (US 3157449; of record) and Faust (US 5661842; of record).

With respect to claim 1, if for some reason it is not taken that Figure 1b and column 3, lines 7-9 of Virsbreg teaches the shrink sleeve 5a having a rectangular cross-section, it would have been obvious to the skilled artisan at the time of the invention to use a shrink-sleeve with a rectangular cross-section because Virsbreg is not concerned

Art Unit: 1733

with a particular cross-section for the shrink sleeve and electrically insulating shrink sleeves with a rectangular cross-section are known in the electrically insulating shrink sleeve art as an alternative to those having a circular cross-section for insulating electrically conductive members having rectangular cross-sections, as taught by the collective teachings of Hennessey (note rectangular shrink sleeve 66; Figures 1-2; column 1, lines 46-50; column 2, lines 17-30) and Faust (abstract; column 2, lines 21-25; column 4, lines 55-62; column 5, lines 8-13); especially since Virsbreg teaches applying the shrink sleeve to a conductor having a rectangular cross-section where using a shrink sleeve having the same cross-section as the article to which it is being applied results in the tightest fit between the sleeve and article, as desired by Virsbreg (column 1, lines 13-17).

Regarding claims 5, 9, 12-13, 21 and 23-24, please see paragraph 4 above.

Regarding claim 14, Virsbreg is silent as to temporarily connecting the individual conductors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to temporarily connect the conductors because this would prevent them from moving around during shrinking of the sleeve.

Regarding claim 18, Virsbreg teaches the rotating electrical machine being synchronous or asynchronous (column 4, lines 33-38) where skilled artisan would have readily appreciated such machines can be either direct or alternating current machines.

Regarding claim 27, Virsbreg teaches such (Figure 1; column 1, lines 65-67; column 3, lines 17-30; note winding machine is circular and therefore winding of the conductors results in bending of the same to produce the coil).

Art Unit: 1733

7. Claims 2-3, 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virsberg alone or Virsberg in view of the collective teachings of Hennessey and Faust as applied to claim 1 above, and further in view of the Admitted Prior Art in the specification of the present application.

*The examiner would like to point out that Virsbreg is not limited to a particular type of shrink sleeve and in fact teaches a variety of shrink sleeves to be used as alternatives to a heat-shrinkable sleeve, as set forth in column 4, lines 39-51.

Regarding claim 2, Virsbreg teaches applying the shrink sleeve around a support sleeve before the sleeve is pulled over the conductor bar (column 4, lines 41-51) but is silent as to mechanically dilating the shrink-on sleeve in its cold state and applying the sleeve around an outer periphery of the support sleeve.

It appears that Applicants teach it is known in the insulating shrinkable sleeve art to mechanically dilate a shrink-on sleeve in its cold state and apply the shrink on sleeve around an outer periphery of a support sleeve before the support sleeve is pulled over the article and then removing the support to shrink the sleeve, as an alternative to using a heat-shrinkable sleeve (p. 3-4, [0009]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the shrink sleeve of Virsbreg around the outer periphery of the support sleeve of Virsbreg because such is know in the shrinkable sleeve art as an alternative to a heat-shrinkable sleeve, as taught by the Admitted Prior Art in the specification of the present application, and one reading Virsbreg as a whole would have appreciated that no criticality is placed on how the sleeve is applied to the conductor bar where only the expected results would have been achieved.

Art Unit: 1733

Regarding claim 3, the Admitted Prior Art in the specification of the present application teaches removing the support sleeve from between the insulating shrink-on sleeve and the article after the support sleeve surrounded by the shrink-on sleeve has been applied to the article (p. 3, [0009]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the support sleeve of Virsbreg as suggested by Applicants because such is known in the art, as taught by the Admitted Prior Art, where only the expected results of allowing the sleeve to shrink onto the conductor bar would have been achieved.

Regarding claim 6, Virsbreg is silent as to dilating the sleeve with compressed air and pulling the sleeve in a cold state over the conductor bar. Selection of a particular method for dilating the sleeve would have been within purview of the skilled artisan at the time the invention was made absent any unexpected results. It would have been obvious to one of ordinary skill in the art at the time the invention was made to pull the dilated sleeve in a cold state over the conductor bar because it appears that Applicants teach that such a technique is known in the shrinkable sleeve art (p. 3 [0009]) as discussed above in reference to present claim 2.

Regarding claim 15, Virsbreg is silent as to the conductors not being Roebel-transposed in the area of an involute. It appears Applicants teach it is known in the art to use conductors in a Roebel-transposed arrangement of a non-Roebel-transposed arrangement (p. 2, [0005]). Selection of either arrangement would have been within purview of the skilled artisan at the time the invention was made absent any unexpected results.

Art Unit: 1733

8. Claims 4, 20 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virsbreg alone or Virsbreg in view of the collective teachings of Hennessey and Faust and also in view of the Admitted Prior Art as applied to claim 2 above, and further in view of the collective teachings of Evans (US 4135553; of record) and Forman et al. (US 5624618; of record).

*The examiner would like to point out that Virsbreg is not limited to a particular type of shrink sleeve and in fact teaches a variety of shrink sleeves to be used as alternatives to a heat-shrinkable sleeve, as set forth in column 4, lines 39-51.

Regarding claim 4, Virsbreg teaches destroying the support by softening it with the help of a solvent (column 4, lines 47-49). It is known in the heat-shrinkable sleeve art to remove a plastic support from a shrinkable sleeve by dissolving the support in a solvent, as taught by Evans (column 3, lines 59-61). It is also known to remove a plastic support from the material it is supporting by melting the support as an alternative to dissolving it in a solvent, as taught by Forman et al. (column 3, lines 17-18). Therefore, it would have been obvious to the skilled artisan at the time the invention was made to remove the support from the shrinkable sleeve of Virsbreg by melting the support because such is known alternative for removing a support, as taught by the collective teachings of Evans and Forman, and this allows for easy removal of the same.

Regarding claim 20, Evans and Forman teach the support being polymeric. Selection of a polymeric support having particular characteristics would have been within purview of the skilled artisan at the time the invention was made depending on the materials of the sleeve and article onto which the sleeve is shrunk.

Art Unit: 1733

Regarding claim 26, the skilled artisan would have appreciated that the softened support sleeve of Virsbreg (column 4, lines 47-49) would adhere on the surface of the conductor bar and therefore fill any voids (i.e. spaces between conductors).

9. Claims 7-8 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virsbreg alone or Virsbreg in view of the collective teachings of Hennessey and Faust as applied to claim 1 above, and further in view of Mohebban et al. (US 4589939; of record).

*The examiner would like to point out that Virsbreg is not limited to a particular type of shrink sleeve and in fact teaches a variety of shrink sleeves to be used as alternatives to a heat-shrinkable sleeve, as set forth in column 4, lines 39-51.

Regarding claim 7, Virsbreg is silent as to the sleeve being made of a plurality of radially superimposed layers each having different properties. It would have been obvious to one of ordinary skill in the art to use a heat-shrinkable sleeve having a plurality of radially superimposed layers with different properties because such is known in the conductor insulating art, as taught by Mohebban (column 2, lines 61-65), where this allows for manipulation of the properties of the sleeve.

Regarding claim 8, Virsbreg is silent as to how the sleeve is made. It would have been obvious to one of ordinary skill in the art at the time the invention was made to co-extrude the sleeve because such is known in the art, as taught by Mohebban (column 2, lines 55-56), and this allows for continuous production of the sleeve.

Regarding claim 22, Mohebban teaches one of the layers being the main insulation (column 6, lines 62-65).

Art Unit: 1733

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Virsbreg alone or Virsbreg in view of the collective teachings of Hennessey and Faust as applied to claim 1 above, and further in view of Dienes (US 3946480; of record).

Regarding claim 10, Virsbreg is silent as to providing adhesive between the sleeve and conductor bar. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply adhesive to the inside of the sleeve or the outside of the conductor bar because such is known in the conductor insulation art, as taught by Dienes (column 5, line 64 – column 6, line 1), where this would ensure a good bond between the same. Selection of a particular adhesive would have been within purview of the skilled artisan depending on the desired characteristics.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Virsbreg alone or Virsbreg in view of the collective teachings of Hennessey and Faust as applied to claim 1 above, and further in view of Vallauri et al. (US 5985062; of record).

Regarding claim 11, Virsbreg is silent as to the sleeve being an extruded elastomer. Selection of a particular material for the sleeve would have been within purview of the skilled artisan at the time the invention was made depending on the desired characteristics thereof. However, it is known in the art to make insulation sleeves from extruded elastomeric material wherein these sleeves are applied as insulation to conductors, as taught by Vallauri (column 3, lines 20-21 and 47-51). Therefore, it would have been obvious to the skilled artisan to use an extruded elastomer for the sleeve of Virsbreg because such is known in the conductor insulating art, as taught by Vallauri, wherein such a material works well in heat-shrink applications.

Art Unit: 1733

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Virsbreg alone or Virsbreg in view of the collective teachings of Hennessey and Faust and also in view of the Admitted Prior Art as applied to claim 3 above, and further in view of Krackeler (US 4585607; of record).

*The examiner would like to point out that Virsbreg is not limited to a particular type of shrink sleeve and in fact teaches a variety of shrink sleeves to be used as alternatives to a heat-shrinkable sleeve, as set forth in column 4, lines 39-51.

Regarding claim 19, the Admitted Prior Art (p. 4, [0009]) and Krackeler (Figure 5; column 2, lines 20-22) teach the support being removed along helically arranged perforations. Therefore, it would have been obvious to the skilled artisan at the time the invention was made to remove the support from the shrinkable sleeve of Virsbreg in the manner claimed by Applicants because such is a known alternative for removing a shrink sleeve support, as taught by the collective teachings of the Admitted Prior Art and Krackeler, where this allows for easy removal of the same.

Response to Arguments

13. Applicant's arguments filed 1/6/05 have been fully considered but they are not persuasive.

14. On page 8 of the arguments, Applicant argues that the shrink sleeve 66 of Hennessey might have rectangular inner and outer cross-sections but Hennessey is silent as to the geometry of the sleeve.

The examiner points out that Figure 1 clearly shows a sleeve 66 that has a rectangular cross-section.

Art Unit: 1733

15. On page 8 of the arguments, Applicant argues that Hennessey does not teach the sleeve being used to insulate and furthermore does not teach the sleeve being used to insulate electrical conductors of rotating electrical machines.

First, the skilled artisan points out that Hennessey does teach the sleeve being used to insulate (column 1, lines 46-49). Second, the reference was only used to show it being known in the electrically insulating shrink sleeve art to use a shrink sleeve having a rectangular cross-section when being used to insulate an electrically conductive member having a rectangular cross-section.

16. On page 9 of the arguments, Applicant argues that while Faust may teach shrink sleeves having rectangular cross-sections, the reference does not teach insulating rectangular conductor bars for rotating electrical machines.

The examiner points out that Faust was only used to show it being known in the electrically insulating shrink sleeve art to use a shrink sleeve having a rectangular cross-section as an alternative to one having a circular cross-section when insulating an electrically conductive member.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is 571-272-1223. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jessica L. Rossi
571-272-1223